

GRID DESCRIPTION

CTV II

Model Domain

A static geological model was developed with Schlumberger's Petrel software, commonly used in the petroleum industry for exploration and production, and is the computational modeling input. It allows the user to incorporate seismic and well data to build reservoir models and visualize reservoir simulation results. Model domain information is summarized in **Table 1**.

Table 1. Model domain information.

Coordinate System	California State Plane		
Horizontal Datum	North American Datum (NAD) 27		
Coordinate System Units	Feet		
Zone	Zone 2		
FIPSZONE	████	ADSZONE	████
Coordinate of X min	████████	Coordinate of X max	████████
Coordinate of Y min	████████	Coordinate of Y max	████████
Elevation of bottom of domain	██████	Elevation of top of domain	██████

The geo-cellular grid is uniformly spaced throughout the 36.9 square mile model area (**Figure 1**) at 100 feet x 100 feet, dynamic modeling upscaled to 200 feet x 200 feet. These grid dimensions allow for adequate resolution of plume development. Finer resolution for the grid will prevent the simulation from running efficiently and a coarser grid will not adequately simulate plume movement. The model grid is aligned north to south and reservoir properties were distributed in [REDACTED]

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Figure 1. Plan view of the model boundary and geo-cellular grid used to define the project AoR.



Figure 2. Location of wells with open-hole log data [REDACTED] permeability or capillary pressure data used to develop the static and computational models.

A constant vertical cell height of 5 feet was utilized over the model domain to generate grid layers within the model as shown in **Figure 3**. The 5-foot cell height provides the vertical resolution necessary to capture significant lithologic heterogeneity (sand versus shale) which helps to ensure accurate upscaling of log data and distribution of reservoir properties in the static model. Flow model vertical thickness within the model depends on the vertical proportion of each sandy body, average thickness is 9 feet. **Figure 4.** shows a comparison of open-hole log data and the associated upscaled logs for a well within the AoR.

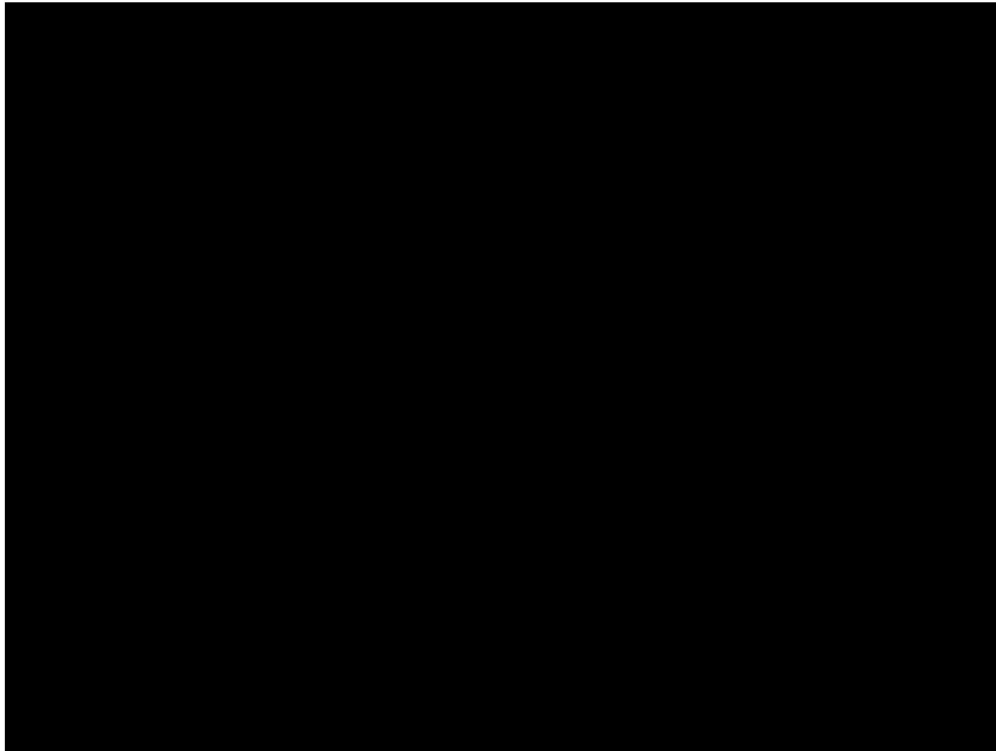


Figure 3. Static model layering for [REDACTED].

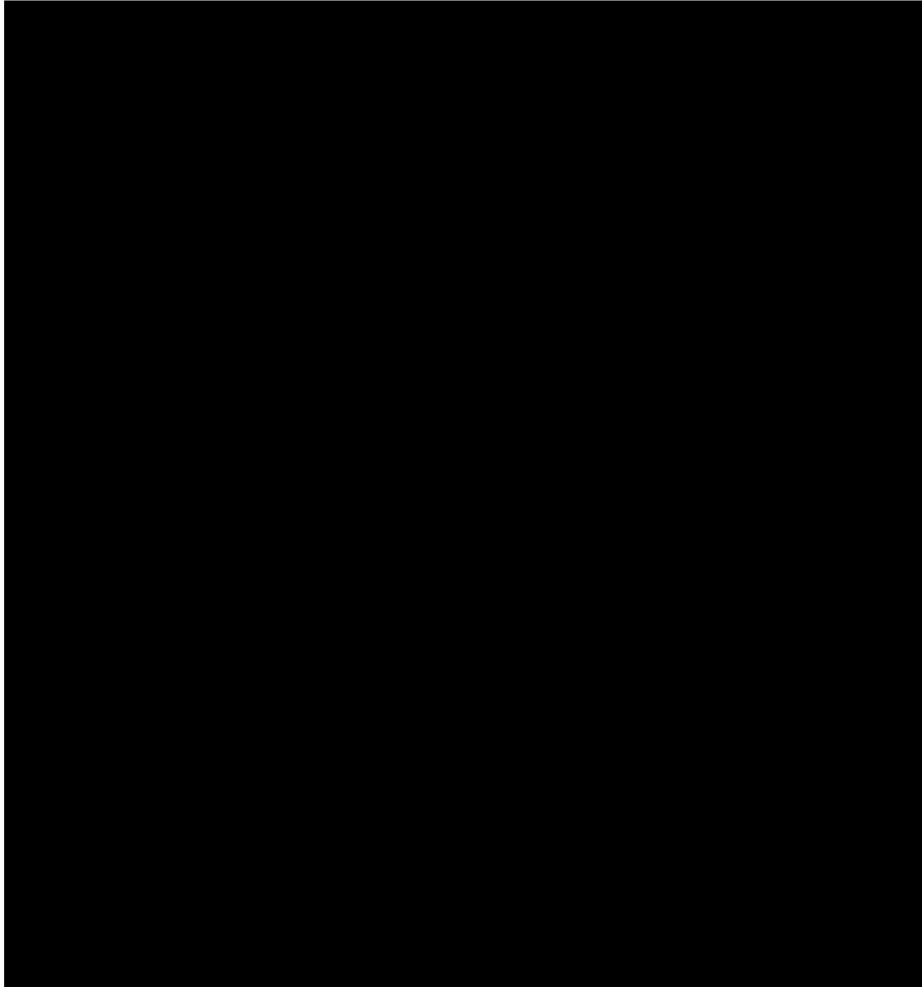


Figure 4. Well [REDACTED] upscaled logs versus open-hole logs.